

Plectranthias pelicieri, a New Anthiine Fish (Perciformes: Serranidae) from Mauritius, with Notes on *P. gardineri*

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Abstract *Plectranthias pelicieri* is described as a new species of anthiine fish from six specimens collected in 50–70 m at Mauritius. It is distinct in having dorsal rays X, 16 or 17; branched caudal rays 15; pectoral rays 13, none branched; lateral-line complete with 29 pored scales; 4.5 rows of scales on cheek; scales dorsally on head not reaching a vertical at rear edge of orbit; 3 ventrally-directed to antrorse spines on ventral margin of preopercle; third dorsal spine longest; a slender membranous flap from tip of larger spines of dorsal fin; an emarginate caudal fin; and a distinctive red and yellow color pattern with pale blue to white vertical lines on body.

A Seychelles specimen of *P. gardineri* (Regan) is illustrated for the first time in color.

The fishes of the genus *Plectranthias*, subfamily Anthiinae, family Serranidae, are small benthic species that generally occur at depths greater than normally penetrated by SCUBA divers. None are of commercial importance, and most are poorly represented in museum collections.

The genus was revised by Randall (1980) who recognized 30 species. He remarked that 18 of these are known from only one or two collections, and eight by single specimens. Nine species have been described in the genus since the revision: *P. randalli* Fourmanoir and Rivaton (1980), *P. altipinnatus* Katayama and Masuda (1980), *P. maculatus* Fourmanoir (1982), *P. barroi* Fourmanoir (1982), *P. fijiensis* Raj and Seeto (1983), *P. exsul* Heemstra and Anderson (1983), *P. chungchowensis* Shen and Lin (1984) (placed in the synonymy of *P. whiteheadi* Randall by Lee, 1990), *P. bilaticlavia* Paulin and Roberts (1987), and *P. parini* Anderson and Randall (1991). Only one species, *P. garrupellus* Robins and Starck (1961), is known from the Atlantic; the others occur in tropical and subtropical seas of the Indo-Pacific region.

In the present paper we describe a new species of *Plectranthias*, from specimens that have been collected at Mauritius in the depth range of 50–70 m. This fish is small and very colorful; it has entered the aquarium fish trade. A color photograph of it ap-

peared on the cover of *Islander* (1990, no. 9), the inflight magazine of Air Mauritius.

Specimens of the new species are deposited in the Bernice P. Bishop Museum, Honolulu (BPBM); National Science Museum of Tokyo (NSMT); J.L.B. Smith Institute of Ichthyology, Grahamstown, South Africa (RUSI); and the U.S. National Museum of Natural History, Washington, D.C. (USNM). Methods of counting and measuring follow Randall (1980). Lengths for specimens are given in standard length (SL).

The fourth species of *Plectranthias* to be named, *P. gardineri* Regan (1908), was described from five specimens from the Amirantes Group of the Seychelles. An additional specimen was collected recently in the Amirantes, and a color photograph taken by the senior author. Since there is no previous record of the life color of this species, its photograph is presented herein as Figure 3.

Plectranthias pelicieri sp. nov. (Figs. 1, 2; Table 1)

Holotype. BPBM 34646, male, 40.2 mm, Mauritius, hand net, D. Pelicier, 1990.

Paratypes. BPBM 35420, 29.1 mm, Mauritius, hand net, D. Pelicier, 1990; RUSI 37015, 37.4 mm and USNM 325539, 35.6 mm, same data as preceding; NSMT-P 45179,

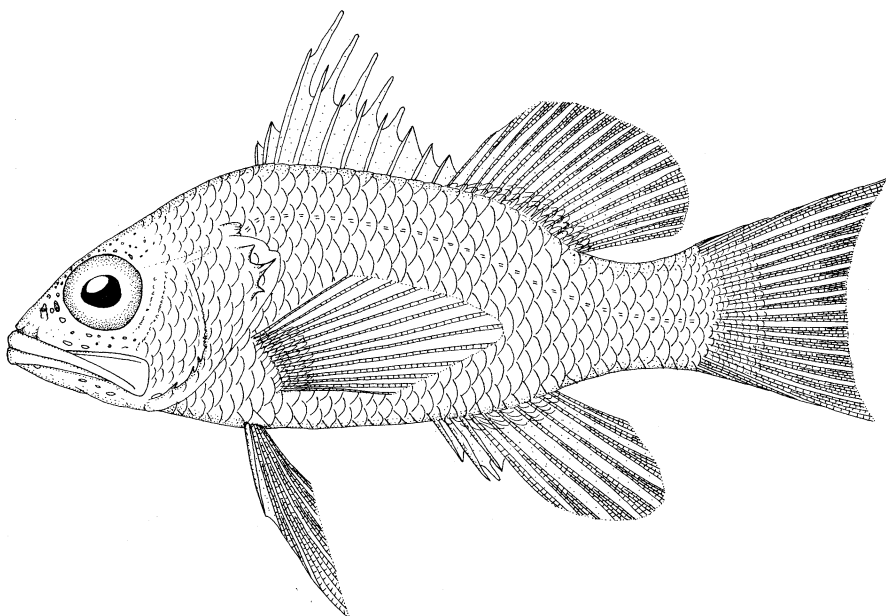


Fig. 1. Holotype of *Plectranthias pelicierei*, BPBM 34646, 40.2 mm SL, Mauritius (T. Shimizu).

44.1 mm, Mauritius, hand net, D. Pelicier, March, 1991; NSMT-P 45180, 41.0 mm, same data as preceding (the two NSMT specimens died in aquaria at Tokyo Sea Life Park).

Diagnosis. Dorsal rays X, 16 or 17; branched caudal rays 15; pectoral rays 13 (none branched); lateral line complete, the pored scales 29; scales above lateral line to base of middle dorsal spines 2; rows of scales on cheek 4.5; no scales on maxilla; scales dorsally on head not extending to a vertical at rear edge of orbit; 3 ventrally-directed antrorse spines on ventral margin of preopercle; gill rakers 5 + 11 or 12; third dorsal spine longest; a ribbon-like flap extending above tip of second to eighth dorsal spines (flaps may be as much as three-fourths spine length); caudal fin emarginate; color in alcohol pale without dark markings, in life red and yellow with near-vertical pale blue to white lines on body.

Description. Dorsal rays X, 16 (16 or 17—three of five with 16); anal rays III, 7; all dorsal and anal soft rays branched (except first dorsal ray of holotype), the last to base; pectoral rays 13 (none branched); pelvic rays I, 5; principal caudal rays 8 + 9, the median 15 branched (unbranched principal rays about three-fourths length of adjacent branched rays); upper and lower procurent caudal rays 6, the most posterior segmented; lateral line complete, the

pored scales 29; scales above lateral line to middle dorsal spines 2; scales above lateral line to origin of dorsal fin 3; scales below lateral line to origin of anal fin 10; circumpeduncular scales 14; rows of scales on cheek 4, with a fifth row of 5 narrow scales at edge of preopercle; median predorsal scales about 8 (not in alignment, so difficult to count); median preventral scales 8; gill rakers 5 + 12, of which 1 + 7 are elevated (5 + 11 or 12; only one paratype with 11); pseudo-branchial filaments 15 (13–15); vertebrae 10 + 16; supraneural (predorsal) bones 3; supramaxilla present (small and poorly ossified).

Body moderately deep, the depth 2.7 (2.7–2.9) in SL, and compressed, the width 2.0 (1.8–2.0) in depth; head length 2.25 (2.25–2.35) in SL; head somewhat pointed, the dorsal profile slightly convex; snout length 4.35 (4.1–4.55) in head length; profile of snout straight; fleshy orbit diameter 3.9 (3.3–3.95) in head; interorbital space flat, the least bony width 9.85 (8.65–10.2) in head; least depth of caudal peduncle 3.2 (3.15–3.2) in head; caudal peduncle length 2.5 (2.35–2.5) in head.

Mouth large, the maxilla reaching slightly posterior to a vertical at rear edge of orbit; lateral surface of maxilla with a long low ridge parallel to dorsal edge; mouth terminal (or with the lower jaw slightly projecting) and oblique, the gape forming an angle of about 20° to horizontal axis of body; upper jaw with



Fig. 2. Aquarium photograph of *Plectranthias pelicieri*, about 35 mm SL, Mauritius (D. Pelicier).
Fig. 3. *Plectranthias gardineri*, BPBM 35487, 33 mm SL, off Bird Island, Seychelles (J. Randall).

a slightly incurved fixed canine tooth on each side, the symphyseal gap about one-third orbit diameter; a band of villiform teeth in jaw, broader anteriorly, the inner teeth depressible and enlarged, the innermost largest (longer than anterior canines); lower jaw with a narrow band of villiform teeth, broader anteriorly, the inner teeth largest, especially those at front of jaw (but not approaching size of upper inner depressible teeth); a fixed, incurved and recurved canine about half way back in jaw; vomer and palatines with a narrow band of villiform teeth (in one to two irregular rows), those on vomer forming a V-shape. Tongue long and slender, the tip rounded. Longest gill raker on lower limb adjacent to raker at angle, slightly longer than longest gill filaments of first gill arch.

Opercle with three flat spines, the central one largest, most acute, most posterior, and equidistant to upper and lower spines; dorsal margin of preopercle finely but variously serrate (partially serrate

on holotype, with 17 serrae on one side and 20 on other); ventral margin of preopercle with three ventrally-directed to antrorse spines (the uppermost at lower edge of rounded corner of preopercle); margin of subopercle and interopercle not serrate (may be slightly irregular).

Anterior nostril in a membranous tube anterior to center of eye, about one-third distance to front of snout, the posterior edge slightly elevated; posterior nostril an ovate opening larger than anterior nostril, with a slight rim, located an internarial distance from fleshy edge of orbit; a large pore between nostrils, one posterodorsal to posterior nostril, and another directly below posterior nostril; two longitudinal series of small pores on each side of interorbital space, the inner series continuing around posterior part of orbit; numerous small pores in naked anterior nape region.

Lateral line broadly arched over pectoral fin, approximately following dorsal contour of body; scales

Table 1. Proportional measurements of type specimens of *Plectranthias pelicierei* expressed as percentages of the standard length

	Holotype		Paratypes		
	BPBM 34646	BPBM 35420	USNM 325539	RUSI 37015	NSMT-P 45180
Standard length (mm)	40.2	29.1	35.6	37.4	41.0
Body depth	37.3	36.6	36.8	36.0	34.3
Body width	18.9	18.0	18.2	18.5	19.2
Head length	44.3	43.9	43.7	44.1	42.9
Snout length	10.2	9.6	9.8	10.7	9.5
Orbit diameter	11.4	13.4	11.5	11.2	11.3
Bony interorbital width	4.5	4.3	4.4	5.1	4.6
Upper jaw length	22.4	22.5	21.9	23.2	21.0
Caudal peduncle depth	13.7	13.7	13.9	13.8	13.4
Caudal peduncle length	17.5	17.9	18.5	18.2	17.3
Predorsal length	40.0	41.4	40.5	43.0	41.5
Preanal length	66.4	67.4	67.5	66.0	68.0
Prepelvic length	35.0	36.1	35.5	37.4	36.3
Dorsal fin base	54.5	53.4	54.8	54.9	52.0
First dorsal spine	7.0	6.9	7.0	6.9	6.6
Longest dorsal spine	19.9	18.2	18.7	20.9	18.3
Last dorsal spine	7.5	8.6	8.4	8.6	7.3
Longest dorsal ray	19.7	19.9	19.7	broken	broken
Anal fin base	19.5	17.5	19.6	19.0	17.6
First anal spine	8.9	10.3	9.3	8.3	8.9
Second anal spine	15.4	17.3	17.0	17.2	15.9
Third anal spine	14.4	15.9	14.9	14.8	13.5
Longest anal ray	22.3	broken	22.9	23.1	broken
Longest caudal ray	32.2	broken	broken	broken	broken
Pectoral fin length	37.8	broken	36.6	35.6	broken
Pelvic spine length	15.0	16.5	15.6	15.5	14.9
Pelvic fin length	32.4	29.5	31.2	35.4	broken

finely ctenoid; snout and maxilla naked; scales dorsally on head not reaching a vertical at rear edge of orbit; small scales in a band at base of soft portions of dorsal and anal fins; caudal fin with small scales extending at least two-thirds distance to fin margin; small scales on about basal fourth of pectoral fins; no scales apparent on pelvic fins (but may have been lost).

Origin of dorsal fin above second lateral-line scale; first dorsal spine 6.35 (6.25–6.5) in head (holotype is aberrant in having XI dorsal spines, the first very short; in taking measurements, its second D spine is regarded as if it were the first); second dorsal spine nearly twice length of first spine; third dorsal spine longest, 2.2 (2.15–2.4) in head; last dorsal spine 2.5 (2.35–2.5) in head; membranes behind second to eighth dorsal spines with a slender flap extending well above spine tip, those from third to sixth spines about three-fourths spine length; seventh to ninth dorsal soft rays longest, 2.25 (2.2–2.25) in head; origin of anal fin below base of first dorsal soft ray; first anal spine 5.0 (4.25–5.3) in head; second anal spine 2.9 (2.5–2.7) in head; third anal spine 3.1 (2.75–3.15) in head; third to fifth anal soft rays longest, 2.0 (1.9) in head; caudal fin emarginate, the upper lobe longest, the fin length 3.1 in SL, the caudal concavity 6.3 in head (caudal fin broken on all paratypes); eighth and ninth pectoral rays longest, 2.65 (2.75–2.8) in SL; second pelvic ray longest, 3.1 (2.8–3.4) in SL.

Color in alcohol.—Pale, without dark markings.

Color in life.—Body red, shading to orange-yellow on abdomen and above anterior part of anal fin, with near-vertical pale blue, lavender, or white lines (edged with red within orange-yellow ventral part of body); vertical lines posteriorly on body white, less distinct, and ending dorsally in a diffuse whitish zone; head irregularly banded with red and yellow (the most conspicuous marking a red spot on opercle ringed with yellow and red) with red-edged bluish white blotches and irregular lines; first two spines and membranes of dorsal fin largely red; rest of spinous portion of fin translucent yellowish with a yellow spot on each spine and a small red and yellow spot on each membrane near spine tip; soft portion of dorsal fin with translucent light red membranes spotted with yellow; anal fin with a pale blue reticulum enclosing large red-edged orange-yellow spots; caudal fin translucent yellowish; pectoral rays light red; pelvic fins longitudinally streaked with broad orange-yellow and narrow red-edged pale blue or

lavender bands.

Remarks. We name this fish in honor of Daniel Pelicier of Mauritius who collected all of the type specimens and took the photograph of Figure 2.

Pelicier collected the specimens using SCUBA at depths of 50–70 m. He reported the bottom as gravel with small round corals (perhaps *Fungia*); when disturbed, the fish hide under the coral. He added, "They rest on the bottom, usually in pairs, and jump for their food like hawkfishes."

Plectranthias pelicieri is unique among the species of the genus in having three ventrally-directed to antrorse spines on the ventral margin of the preopercle. Yoshino (1972) reported one to three antrorse spines on the lower border of the preopercle of *P. anthioides* (Günther) (reidentified as *P. kamii* Randall by Randall, 1980; however, the specimens examined by Randall all had two). Two other species of the genus share with *P. pelicieri* 16 or 17 dorsal soft rays, 13 pectoral rays (all unbranched), third dorsal spine longest, ribbon-like extensions from tips of interspinous membranes of spinous portion of dorsal fin, no scales on side of snout or maxilla, and an emarginate caudal fin. One of these, *P. vexillarius* Randall (1980) from the Gulf of Oman, also has 15 branched caudal rays and 29 lateral-line scales. It differs from *pelicieri* in lacking spines on the ventral margin of the preopercle, having the top of the head scaled nearly to the nostrils, 7 rows of scales on the cheek, 6+13 gill rakers, and in color (pale in alcohol with four irregular series of large brown blotches). The second apparent relative is *P. inermis* Randall (1980), known from the Philippines, New Britain, Indonesia, and Christmas Island (Indian Ocean); it differs from *pelicieri* in having an incomplete lateral line, no spines or serrae on the preopercle, 13 branched caudal rays, and a color pattern similar to that of *vexillarius*. *P. altipinnatus* Katayama and Masuda from Japan also shares several important characters with *P. pelicieri*: 13 simple pectoral rays, 5+12 gill rakers, no scales on snout or maxilla, and the third dorsal spine longest with a pennant-like flap; it is also similar in having 18 dorsal soft rays, a complete lateral line with 27 or 28 pored scales, and 5 rows of scales on the cheek. It differs significantly in lacking spines on the preopercle, having 13 branched caudal rays, a slightly rounded caudal fin, and a color pattern of red with yellow spots.

Plectranthias gardineri (Regan)

(Fig. 3)

Xenanthias gardineri Regan, 1908: 223, pl. 28, fig. 1 (type locality Amirante Islands, Seychelles).

Diagnosis. Dorsal rays X, 14; anal rays III, 6 or 7; pectoral rays 14 or 15, none branched; branched caudal rays 13; lateral line incomplete, ending beneath soft portion of dorsal fin, the pored scales 17 or 18; scales above lateral line to origin of dorsal fin 3; diagonal rows of scales on cheek 6; maxilla scaled; top of head scaled to nostrils; gill rakers 4–5+9–11; ventral margin of preopercle with a single antrorse spine; dorsal margin of preopercle with 14–19 coarse serrae; body depth 2.55–2.7 in SL; fourth dorsal spine longest, 1.9–2.15 in head; pectoral fins not long, about 3.2 in SL; caudal fin rounded.

Color in alcohol.—Pale without dark markings.

Color when fresh.—Dull red, shading to pale yellowish on abdomen and thorax, with two series of six irregular small pale blotches, the first along dorsal part of body pale yellowish (the three below posterior half of dorsal fin the largest and interconnected), and the second of whitish blotches from gill opening to above rear base of anal fin and along ventral part of caudal peduncle; a broad oblique red band from eye across cheek; head above band dull red, finely mottled with whitish; head below band pale yellowish; snout light red with a faint bluish white reticulum, the upper lip crossed with bluish white lines; iris light red with spoke-like grayish yellow lines; spinous portion of dorsal fin white with a few small reddish blotches at base; soft portion of dorsal fin transparent with a faint median band formed by whitish flecks, the rays whitish, tipped with light red; anal fin similar but with small orange spots and two bands of whitish flecks (one median, the other at base); caudal fin transparent with whitish rays; pectoral fins transparent with yellowish rays, the base with a large whitish spot containing an orange spot; pelvic fins yellowish with light red rays and white dots.

Remarks. *Plectranthias gardineri* was described from five specimens, 28.5–31.5 mm SL, which were collected from the Amirante Group of the Seychelles in the depth range of 25–35 fathoms (46–64 m). They were deposited in the British Museum (Natural History) (now the National Museum of Natural History) as BMNH 1908.3.23.62–6. In the 9-line description of the species by Regan, there is no

record of the life color.

Smith (1961) and Tyler (1966) added descriptive information from their examination of type material. Randall (1980) obtained a loan of four of the five syntypes and selected one of 28.5 mm SL as the lectotype.

Six specimens of this species were collected during the Dutch Seychelles Expedition on the R/V “Tyro” east of Bird Island at a depth of 55 m on 19 December 1993. Five of these specimens are deposited at the Nationaal Natuurhistorische Museum in Leiden (RMNH uncat.) and one at the Bishop Museum. A color photograph was taken of the Bishop Museum specimen when fresh; it is reproduced herein as the first record of the color.

Acknowledgments

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ハタ科ハナダイ亜科イズハナダイ属 *Plectranthias* の一新種の記載

John E. Randall・清水 長

モーリシャスで採集した新種 *Plectranthias pelicierei* を記載した。本種は他の種から、前鰓蓋骨下縁に3本の前向棘があることで区別できる(外見で見にくい場合には触れると分かる)。その他に背鰭はX, 16-17で細長い皮弁が数本の中程の長い棘の後端にある、胸鰭は13軟条で全て不分枝、側線は完全で側線鱗は29、赤と黄の地に青から白の横縞の入る体色などの特徴がある。また生時の色彩が特徴なので、*P. gardineri* (Regan, 1908) のカラー写真を初掲載した。

(Randall: アメリカ合衆国ハワイ州 B. P. ビショップ博物館; 清水: 〒134 東京都江戸川区臨海町6-2-3 東京都葛西臨海水族園。)